Custer Battlefield National Monument Museum, 1952. Exhibit typical of Museum Branch design and production after World War II.

should tell the story. After much thought it was agreed to begin the presentation with the shocking climax. Succeeding exhibits would then attempt to unravel the mystery of what had happened to leave Custer and every man under his immediate command dead on the field of battle. This decision gave crucial importance to the diorama of Custer's Last Stand. It should depict the scene not as previous artists had imagined it, but as accurately as close analysis of all available evidence would permit. As a master of the medium Burns himself modeled the figure of Custer. The result and the installation as a whole brought him deserved satisfaction when the museum opened on June 25, 1952.

By that time the laboratory had completed its work on the Hawaii project. This had involved only seven exhibits, but distance complicated the task. The exhibits not only had to withstand shipment by land and water from Washington, they needed to correlate with other exhibits being produced in Hawaii. Upon arrival the park would install them in the headquarters building on the rim of Kilauea. Dealing with unfamiliar subject matter, the laboratory staff welcomed advice and guidance from Chief Naturalist John Doerr, who knew the park well. Funding came from Hui O Pele, the park's unique cooperating association.

The Federal Hall project entailed quite different problems. Museum Branch involvement with Federal Hall Memorial had begun soon after the Wall Street property became a Park Service responsibility in 1939. Burns

established a good working relationship with the Federal Hall Memorial Associates, who were developing a museum there without professional staffing. This patriotic organization sponsored by powerful and public-spirited interests in the Lower Manhattan business community was a welcome tenant in a historic building the Service could not then afford to restore and operate. Burns' aim was to minimize future curatorial or public relations difficulties that its mistakes might engender.

The building, whose vaults had once held much of the gold and silver validating the currency of the United States, was itself a distinguished architectural monument meriting preservation. It occupied the site of an older structure, Federal Hall, where George Washington had been inaugurated president and directed the organization of the national government under the Constitution. These events of the 1780s constituted the interpretive interests of the associates. But Federal Hall in its earlier form as colonial New York's city hall had also witnessed such significant events as the jailing and trial of John Peter Zenger for libeling the imperious colonial governor. Zenger's acquittal on the grounds that his printed statements were true became a landmark in establishing the freedom of the press. In September 1949 the Zenger Memorial Fund, formed by influential newspaper publishers, contracted with the Park Service to underwrite a Zenger Memorial Room at Federal Hall.[22]

The Zenger Room constituted an especially difficult assignment for the Museum Branch. The subject matter to be interpreted did not lend itself readily to museum treatment. Freedom of the press defied concrete visualization. Zenger's appearance was unknown, and no artifacts associated with him survived except copies of his newspaper. Nothing remained of the fabric of City Hall, and pictorial evidence proved scanty. The only known exhibitable specimen related to the trial was unavailable.[23] The room selected for the memorial presented further problems. Tall windows occupied much of two walls, two doors interrupted a third, and monolithic columns supported the ceiling. The exhibit installation would have to leave the stately architecture unimpaired.

The promoters of the memorial did not limit their participation to money. The elderly president of the fund, James Wright Brown, continued to suggest changes affecting the exhibit plan while the work progressed. Another proponent pressed for more emphasis on the role of Zenger's wife, whom he credited with maintaining publication of the newspaper during Zenger's incarceration. The fund also insisted that a New York illustrator named Cliff Young execute some of the exhibits. Burns consequently had to engage in time-consuming negotiations with well-meaning people operating outside their field of professional competence. On some points he could compromise, for example by spotlighting Mrs. Zenger in the jail

diorama and assigning two or three introductory illustrations to Young. Other proposals he felt obliged to resist.

Another factor augmented the tension. The location of the Zenger Memorial and its well-connected sponsorship meant that it would address a highly sophisticated, discriminating, critical public. None but the best possible exhibits would do.

While structural rehabilitation of the room proceeded, the Museum Branch began production. A special study by a Columbia University historian established the narrative basis for the exhibits. The plan that resulted called for three sizable painted illustrations to present information regarded as essential background: Zenger's arrival in New York as an immigrant boy, Governor William Cosby's autocratic attitude, and the local election that crystallized resistance. Four dioramas would highlight Zenger's role in the controversy and form the nucleus of the display. A few cases would show original issues of Zenger's newspaper, 18th-century tools of the printer's trade, and items concerning Andrew Hamilton, the prototypical Philadelphia lawyer who defended Zenger. Two verbal panels, one recognizing the jurors and the other the significance of their verdict, would provide a fitting conclusion.

Every aspect of the Zenger exhibits would tax laboratory skills, but the dioramas demanded the most time and effort. One showed Zenger at his press. Colonial Williamsburg's reconstructed print shop fortunately offered a convenient source of data. Burns, who determined to sculpture the figure of Zenger, discovered that the costumed demonstrator who operated the Williamsburg press resembled Zenger in age and ethnic background and used him as a model. Burns went on to sculpture the figure of Andrew Hamilton in the intricate diorama of the trial, a group requiring the laboratory curators to search out details of British courtroom procedure as practiced in the colonies. Problems of modeling in perspective loomed large for the diorama depicting Zenger's newspaper being burned by court order in front of City Hall. Both the building with its brick walls and the cobbled street had to recede convincingly into the background from wherever the viewer stood.

When the Zenger Memorial Room opened in April 1953, Burns could feel relief as well as satisfaction. The sponsors evidently were well pleased with their investment of nearly $50,000. As far as the Museum Branch could tell, the exhibits achieved their intended purpose. The interest and pleasure that visitors appeared to show suggested they were obtaining a heightened appreciation of one of their basic rights. The fact that a critic could later describe these and other exhibits at Federal Hall National Memorial as "without merit" pointed up a continuing problem of exhibit evaluation, to be considered subsequently.[24]

Ned J. Burns. Checking his miniature sculpture of John Peter Zenger for Federal Hall Memorial with his model, the Colonial Williamsburg printer, Gus Klapper (left). (Courtesy Colonial Williamsburg Foundation.)

The Zenger exhibits reflected a lifetime of skill and knowledge applied by one of the country's most respected museum workers. In a sense this assignment required Burns to carry to the extreme the sage observation of Hermon Bumpus that park museums should invert customary museum practice without upsetting it. The Zenger Memorial fittingly capped his career. Neither he nor his colleagues realized the extent to which his health faltered as the work progressed. Within five months of its completion he was bedridden; he died on October 12 at the age of 53.

During nearly two decades Burns made an immeasurable contribution to the park museum program. While the account so far has dealt mostly with his leadership in the development of exhibits, he defined professional policies and standards that guided all other aspects of park museums. His vigorous support strengthened interpretive efforts throughout the Park Service. His influence continued for at least as long as those who had worked with him remained on the job.

The four projects that dominated Museum Branch activity in 1950-53 did not encompass all the branch did. In 1953, for example, Federal Hall was among 15 parks for which the laboratory produced exhibits. When the

Park Service took over from the city of Philadelphia preservation and management of Independence Hall and associated structures in January 1951, it became responsible for the city-owned historical collections in these buildings. They comprised a large number of objects ranging widely in significance but including such national treasures as the Liberty Bell, the inkwell used by the signers of the Declaration of Independence, the "rising sun" chair from which Washington presided over the Constitutional Convention, and the historic portraits of the founding fathers.

Burns appreciated the necessity of establishing close curatorial supervision over the recording and care of these artifacts as well as their use in exhibits. The city would expect strict accountability, and the importance of many of the objects imposed an even greater obligation. Burns accordingly arranged the transfer of James Mulcahy from the laboratory staff to Independence National Historical Park as curator. He could count on Mulcahy to maintain faithful and intelligent watch over not only the safekeeping and care of the collections but also their exhibition during a critical period of the park's development.[25]

Before leaving for the Philadelphia assignment Mulcahy completed an unusual project. Director Demaray asked the Museum Branch to develop a display that might help solve a growing problem of littering in the parks. Mulcahy devised a trailside viewing box through which visitors might look at a scenic park feature. Ostensibly the contrivance would help a visitor focus attention on the inspiring view. Within the box, however, a representative assortment of litter provided a discordant foreground. Presumably this mild shock would induce the viewer to refrain from littering. Rangers at Shenandoah National Park observed visitors as they used a prototype. It did not work as intended: users debated whether or not the glass ends magnified the distant feature while scarcely noticing the interposed junk.[26]

The laboratory worked on other wayside exhibits during this period, each time trying not only to supply an immediate interpretive need but to increase the durability and graphic versatility of the medium. Experimentation that dated back to the wayside shrines Hermon Bumpus had conceived for Yellowstone some twenty years earlier proceeded along two principal lines. One led toward cheaply produced multiple copies so a park could easily replace a damaged display. The other sought to use tough materials and construction that would resist weathering and vandalism.

Following the latter path the branch produced two carefully encased waysides at this time. For Montezuma Castle National Monument, where continued erosion of the ruin by visitors threatened irreparable harm, the laboratory prepared a detailed scale model. Installed at the foot of the cliff, it supplemented the distant view of the original to which people might no longer climb. The second exhibit stood at Surrender Field in the Yorktown portion of Colonial National Historical Park. In spite of tight case

construction moisture tended to condense on the inside of the glass front. After the top official of the Pittsburgh Plate Glass Company visited the park and saw the problem, he wrote the director offering his company's help. The laboratory rebuilt the case with advice and materials from the manufacturer. Three inches of glass foam insulation on the back and sides combined with a dual-pane glass front did solve the condensation problem—until a vandal shot holes in the expensive assembly a few months after its reinstallation.

The Museum Branch continued work toward practical methods of displaying pictures, maps, charts, labels, and even objects outdoors. Its efforts culminated in the very durable and graphic cast aluminum markers designed by Frank Buffmire for the High Water Mark Trail at Gettysburg a decade later. Buffmire and his colleagues also developed effective waysides using plastic lamination, metalphoto, routed aluminum, and other techniques in various combinations.[27]

Innovation characterized another exhibit project in the busy start of the 1950s. A few months after Floyd LaFayette joined the Museum Branch staff as a curator in 1951, he volunteered to serve as planner, designer, and preparator for the Ochs Memorial exhibits. Being deeply involved in production for Ocmulgee and Custer Battlefield, the laboratory welcomed his unusual offer. The Ochs Memorial, an observation station museum built on Lookout Mountain in Chickamauga and Chattanooga National Military Park just before World War II, badly needed to have temporary displays replaced. LaFayette conceived and painted exceptionally graphic campaign and battle maps along with other creditable exhibits. The museum received its new installation in January 1952.[28]

When the government lease on the L Street garage terminated, the museum laboratory again had to search for new quarters. Burns skillfully parried an attempt to transfer the operation to a commercial structure acquired by Independence National Historical Park in Philadelphia, believing firmly that the Museum Branch should remain close to the director's office. Ultimately he selected the ground floor of one wing in Temporary Building S. Erected for a World War II agency, Tempo S was on the Mall across from the National Gallery of Art where the west wing of the National Air and Space Museum now stands. The laboratory would be midway between the Interior Department, where Burns had his office, and the Library of Congress, which the curators needed to use on an almost daily basis. It would be even closer to the National Archives and the Smithsonian museums, other vital sources of continual reference.

The move took place at the end of March 1953. A small room provided a convenient studio in which Burns worked much of the time that remained to him. Here he modeled his last diorama figures and made a start toward revising the out-of-print *Field Manual for Museums.* He hired a part-time

editor but other responsibilities left him little opportunity to use her aid. Tempo S gave the laboratory a good home for more than a decade, until pending demolition forced another move. No earlier or later quarters matched its convenience and spaciousness. The only notable difficulty encountered there involved thefts from the collection storeroom by a GSA night guard. On the verge of apprehension, he threw into the Potomac beyond retrieval a bugle and dirk intended for exhibition.

The new administration that took office in 1953 retained Director Conrad Wirth, who had succeeded Demaray at the end of 1951, but initiated a management survey that led to realignments within the Service. One of these placed Assistant Director Ronald Lee in charge of a newly designated Division of Interpretation composed of four branches: history, natural history, information, and museums. This sharpened the focus on interpretation as a primary Service function under strong leadership. As a secondary result the Museum Branch for the first time achieved the organizational status Carl Russell had sought for it in 1935. Heretofore it had been under the chief naturalist, although at least half its assignments required equally close collaboration with the chief historian. In practice, the excellent cooperation on museum matters established between Chief Historians Lee and Kahler and Chief Naturalists Russell and Doerr had reduced the difficulties in this arrangement to an inconsequential minimum.

Burns' death during the early stages of this reorganization necessitated some staff changes within the branch. In April 1954 Ralph Lewis succeeded Burns as branch chief. Frank Buffmire became assistant chief in May and Robert Scherer moved up to the position of chief preparator, or chief exhibits construction specialist as then titled.[29] They inherited a production program that would continue to tax the museum laboratory.

Several relatively small museum projects in the parks required exhibit planning and preparation. Only a few involved new buildings. Two of them, at Joshua Tree and Saguaro national monuments, brought the laboratory natural history subjects as a welcome change. Other projects called for new museums in restored or rehabilitated structures such as the Clover Hill Tavern at Appomattox, a lighthouse station outbuilding at Cape Hatteras, and additional rooms in the Old Courthouse at St. Louis. These encountered difficulties typical of adaptive use but also presented their share of curatorial and conservation problems. A well-meaning park supporter at Cape Hatteras secured donations for the little Museum of the Sea with the promise that the objects would never leave the Outer Banks, an especially hazardous environment for many artifacts. The Museum Branch consequently had to persuade donors to allow their temporary removal to Washington for preservative treatment and protective mounting in the laboratory. The pending projects also included replacement of stopgap installations that did not meet Service standards at Mammoth Cave

Museum Laboratory in Tempo S, 1955. Museum Branch chief Ralph Lewis, Director Conrad Wirth, and Interpretation Division chief Ronald Lee examine Indian riding accouterments.

and Oconaluftee in Great Smoky Mountains. In carrying out this core program the laboratory installed seven park museums or exhibit rooms between March 1954 and April 1955 and shipped the exhibits for two more to far Southwestern areas.[30]

Perhaps the most innovative among them was the new wing for the Chickamauga museum. Built specifically to house the Claud E. Fuller collection, the Chickamauga addition demanded the adaptation of park museum theory to an atypical situation. The collection had its greatest value as a study series. It comprised several hundred weapons and accessories selected to illustrate the development of American military firearms. A system of visible study storage would serve the primary needs of scholars and also those of interested laymen and casual visitors. The Museum Branch equipped the room with continuous runs of wall cases using factory-built, dust-tight extruded aluminum and plate glass construction with external lighting. It specified higher-than-usual bases to bring every specimen into convenient viewing range. Case fronts with hinges and locks provided both security and practical access when a legitimate student needed to remove a gun for closer examination. To minimize the need for this the laboratory mounted each gun so its whole length and most diagnostic parts were in plain sight. The installation kept the collection in

synoptic order with individual specimen and category labels of display quality. The laboratory also supplied an examining table with padded top, special lights, measuring instruments, and a magnifying glass, but no tools that might be used to disassemble any gun parts.

While concentrating as much as possible on Park Service museum exhibits, the laboratory found it necessary to undertake additional assignments. Parks wanted graphic displays to supplement manned information desks by providing answers to common questions. The Museum Branch viewed informational displays, like those with propaganda intent, as sharply distinct from museum exhibits. The peculiar value of the latter depended on public confidence in their integrity. To avoid eroding this confidence the branch tried quite successfully to keep a degree of physical separation between museum exhibits and other types of display.

The superintendent of San Juan National Historic Site in Puerto Rico asked for help in providing orientation displays to equip a temporary visitor reception building at El Morro. He assured the Museum Branch that he could easily get the work done locally if the laboratory would provide on-site guidance. Frank Buffmire went to the park and laid out a series of attractive bilingual units that matched the superintendent's wishes. Then he discovered that the superintendent had merely assumed he could find craftsmen to carry out the designs. After an arduous search Buffmire located one carpenter whose shop was his back yard. With such meager help he got the panels constructed and painted, executed the graphics and lettering, and mounted the panels in place. While Buffmire's work assured the quality of the exhibits, the project underlined the economy and efficiency of production in the central laboratory.[31]

A year later, in the summer of 1955, the branch cooperated on an experiment that required another set of informational displays. Parks charging entrance fees often experienced bottlenecks at their entrance stations as drivers asked questions. One proposed solution would locate an information station with adequate parking close inside the entrance. To test the idea Yellowstone placed a portable building for this purpose at its west entrance. The laboratory prepared colorful displays answering visitors' principal questions. In the end, the experiment did less to test the potential of the displays than to demonstrate the unwillingness of visitors to make a second stop so soon after entering the park.[32]

The Museum Branch continued to accept occasional outside requests for exhibit design and construction on a reimbursable basis. It was asked to do the exhibits for a new museum in the Prehistoric Indian Mounds State Park at Marksville, Louisiana. Floyd LaFayette guided this job through to completion, establishing excellent working relationships with Louisiana State Parks director William Wells, who later became a Park Service official, and archeologist John A. Ford of the American Museum of Natural

History, who served as curatorial expert. Installation of these exhibits in February 1954 led to a second allotment of $10,000 in state funds for additional work on the Marksville museum. Carnifex Ferry State Park in West Virginia also obtained museum exhibits designed and prepared by the laboratory, this work extending from mid-1954 into early 1956. From the Marine Corps came a request in 1954 to prepare a diorama as part of a special exhibition on naval history in the National Museum's Arts and Industries Building. The rather complex group illustrated in miniature the latest tactical methods for a combined amphibious and airborne assault on a fortified beach. Again satisfaction brought more work: the Corps ordered eight copies to circulate as traveling exhibits.

For a new hall of American Indian ethnology the National Museum contracted with the laboratory to prepare a small diorama showing the interior of a kiva. Before its completion in early 1955 the museum provided $2,000 more for a second group to depict an Inca farming scene. The laboratory's newest preparator, Russell J. Hendrickson, painted the background for it with a fresh and expert touch. Other reimbursable projects during 1955 included updating the National Capital Park and Planning Commission's large model of central Washington, preparation of the Interior Department's portion of a major federal traveling show, "The American Dream," that circulated to department stores in fifty cities, and a set of attractive botanical panels Buffmire painted for the Garden Club of America's national headquarters. Installation of exhibits prepared for the St. Augustine Historical Society in April 1956 and of the second Marksville unit in July allowed the branch again to concentrate its production resources on national park museums.[33]

When the 1955 fiscal year began, the Museum Branch faced what seemed then a very heavy but promising schedule. Congress had appropriated funds for four new park museums. One would serve Carlsbad Caverns, two would supply pressing needs at Colonial National Historical Park, and the fourth would replace dangerously combustible and inadequate facilities for Grand Canyon. The state of North Carolina had already provided money for the Park Service to build a museum beside the Blue Ridge Parkway.[34] The branch would need to keep pace with architectural planning and construction on all these buildings, but the Blue Ridge project had the earliest completion date.

North Carolina wanted to interpret its mineral resources to the public. In return for initial funding the Service undertook to develop and operate the Museum of North Carolina Minerals as a focal point of interest along the parkway. The Museum Branch planned exhibits on the minerals occurring in North Carolina that were or had been important in the state's economy. Specimens supported by graphics would show each mineral, tell

something of its occurrence, extraction, and processing, and illustrate its uses.

Floyd LaFayette, who played a leading role throughout the project, developed the layouts with strong curatorial support from Bennett T. Gale, geologist in the Natural History Branch. When they presented the plan to a sponsoring group of North Carolinians, the response was distinctly unfavorable. Members of the group were ardent mineral collectors who had envisioned the museum as an array of fine specimens displayed for their aesthetic appeal. The plan included only a few such exhibits but called for an adjacent study collection room equipped with well-filled specimen cabinets, maps of mineral sites, and reference books as a rendezvous for students and collectors. The Museum Branch argued the merits of its concept and Ben Gale persuaded the state to accept it. The museum opened in June 1955.[35] Although mineral collectors were not wholly reconciled, the study collection room received considerable use until staff cuts reduced its availability.

Congressional appropriation for the Grand Canyon museum marked the culmination of Louis Schellbach's long, determined effort to persuade those in authority that the park's rich collections constituted a resource too valuable to keep in an old frame schoolhouse. Schellbach had conceived concrete plans for the museum. He knew just where he wanted it and had many ideas for its interpretive content. At the same time, the Service reached a farsighted decision to divert future development from the canyon rim, upon which too many structures already intruded. The museum would be part of the new scheme. The change of location disappointed Schellbach so deeply that he lost heart for the enterprise, leaving its planning largely in the hands of the Museum Branch by default.

Design and Construction chief Tom Vint visited Grand Canyon in July 1954 to go over the proposal as it affected the museum. Cecil Doty, architect for the museum, accompanied Vint to the conference and began preliminary floor plans on the spot. Characteristically Vint also included Ralph Lewis in the party to ensure close collaboration between architect and museum planners from the start.[36] Museum Branch representation helped to make certain that the building included a large, secure room of fire-resistive construction for the study collection as well as suitable exhibit space.

Exhibit planning, which began in earnest a year later, marked a turning point in Museum Branch practice. Before World War II, it may be recalled, curators prepared the entire exhibit plans including layouts, then turned the completed specifications over to the preparators for production. In the intimate working conditions of the postwar laboratory, curators and artists tended to consult each other at earlier stages. Outside the Park Service such innovative installations as the Warburg Hall at the American Museum of

Natural History exemplified a contemporaneous inclination among museums to place more emphasis on design. A continuing debate developed over the respective roles of curator and designer, fueled by a perception that professional designers were insensitive to the scholarly value of museum objects.

With the Grand Canyon plan as its subject, the Museum Branch approached this problem empirically by a deliberate experiment in teamwork. Lewis went to the park in September 1955 to gather data and plot the story line. Two weeks later Buffmire joined him at the park as designer. Together they worked out the exhibit plan in about two weeks of concentrated effort, one proposing content and drafting label copy while the other developed layouts that seemed to communicate the ideas intended. As the plan grew, each reacted constructively to the other's concepts.[37] The experience convinced both men that curator/designer exhibit planning teams could increase the efficiency of the process and raise the quality of the product. Execution of the Grand Canyon plan typified park museum practice under the postwar Museum Branch. The museum presented subject matter selected to meet criteria of significance rather than assumed popular interest. The presentation was basically cognitive, on the assumption that public enjoyment of the park must arise largely out of understanding. Affective aspects of the Grand Canyon experience also received considerable attention, although the Service was still groping in the realm of aesthetic interpretation. One exhibit, for example, concerned the changing moods of the canyon and the necessity of taking time to observe them. Paintings and prints by several distinguished artists hung strategically in the exhibit room, illustrating efforts to reduce the vast complexity of the canyon scene into comprehensible scope. Quotations from Henry Van Dyke's poetic tribute to the Grand Canyon provided a connecting thread in the exhibit sequence. The exhibits followed an essentially chronological flow without sharp breaks between such traditional subject matter fields as geology, biology, anthropology, and history. Circulation through the succession was enhanced, but not forced.

The museum retained the interpretive theme of Time-Movement-Change originally proposed for the park by John C. Merriam and aimed to reinforce the still-effective Yavapai Observation Station rather than supersede or compete with it. Specimens provided prime evidence for much of the story. A series of six units represented something of a tour de force in this regard. Three small dioramas pictured widely different local habitats deduced from the geologic record: a sea bottom, a swamp, and a desert, each containing models of prehistoric life forms. What was unusual was that all the models in each group represented species whose fossils had been found close enough together to suggest they had lived in relatively close

association. An exhibit case flanking each diorama displayed the fossils and rocks that supported the conclusions depicted.

Technical aspects of the Grand Canyon installation also illustrated Museum Branch practice well. The windowless walls of the exhibit space protected all specimens from direct exposure to sunlight, but visitors could see token daylight from practically every point within the room by looking back toward the lobby or ahead to the patio. An installation crew from the laboratory aided by park staff erected furred walls into which the dust-tight, factory-built exhibit cases as well as the dioramas fitted. Case dimensions kept all specimens and labels within optimal viewing range. All exhibit lighting, selected for minimal heat and ultraviolet emission, was external to the cases. One display unit invited visitors to test the hardness of the stone that the eroding river had cut so deeply. Another reproduced the roar of the rapids to emphasize the river's power because many visitors would see the river only from the canyon rim.[38]

The same technical considerations of specimen security and care, convenience and effectiveness of visitor use, durability, and production economy guided the development of the Jamestown and Yorktown museums for Colonial National Historical Park, which were dedicated several weeks before the Grand Canyon museum opened in June 1957. The two Colonial projects developed in an especially stimulating milieu. Both museums had exceptionally good collections on which to base exhibits. Jean (Pinky) Harrington's archeological work in the late 1930s had given Jamestown the fullest representation of 17th-century colonial material culture of any site in the country, and renewed excavations under John Cotter in the mid-1950s were making important additions to the collection. Yorktown also had extensive artifactual evidence obtained from archeological studies of the field fortifications and other sites, including pioneering underwater archeology among sunken British warships in the York River. Recent acquisitions included such prime specimens as portions of tents General Washington had used at the siege, battle flags surrendered by British and Hessian troops, and a splendid early model of one of the blockading French ships. To supplement many of the excavated fragments at both Jamestown and Yorktown, Harold Peterson succeeded in procuring intact 17th-century examples matching the remnants of arms, armor, tools, utensils, and other articles chosen for display. Superintendent Stanley Abbott's active, innovative mind continually forced those working on the interpretive developments to review their own ideas critically and defend or revise them.[39]

The two museums formed part of a complex, coordinated scheme to mark the 350th anniversary of the first permanent British foothold in North America. The state of Virginia had under simultaneous development the Jamestown Festival Park, just upstream from the entrance to the Jamestown

section of the national park. The Festival Park would contain two museums and feature full-scale reconstructions of James Fort, a Powhatan Indian village, and the three ships that had brought the first English settlers. Colonial Williamsburg prepared for the anniversary especially by erecting its new Information Center, containing two theaters of advanced design to show a motion picture intended as the principal interpretive introduction to a Williamsburg visit. This film was costing more than both Park Service museums.

All three agencies cooperated to achieve a coordinated goal and meet a single deadline. Their respective planners and production workers could not avoid some friendly rivalry, for the same public would visit all the new facilities and could be expected to compare them. Although each agency employed a variety of interpretive media including museum exhibits, the state park emphasized living history techniques in the reconstructed fort, village, and ships; Colonial Williamsburg its strong system of guided tours featuring refurnished historic buildings splendidly introduced by the new film; and the Park Service the carefully preserved integrity of its historic sites for which the museums supplied the primary background interpretation. The Jamestown and Yorktown museum buildings did set a precedent in the Service by including respectable auditoriums with suitably equipped projection rooms. These followed the trend set by Williamsburg but reflected even more the growing desire among Service interpreters to make better use of audiovisual media.[40]

The workload imposed by the 1955 fiscal year program required the Museum Branch to hire more preparators. Several of those taken on for the 1950 projects had left. The laboratory had replaced one of them with Charles W. Dreyer, who had worked for years at the Naval Observatory repairing navigational instruments. He proved a very skillful, patient modeler of miniature weapons for dioramas and a fabricator of fine specimen mounts. Another replacement, Daniel J. Hadley, left just as the 1955 projects got into high gear. Selecting talent for the new program began in December 1954 when William A. Smith transferred from the Army Map Service. He proved to be a good diorama sculptor but also mastered the newest casting techniques, much to the benefit of the laboratory. Russell Hendrickson entered on duty in February 1955 as an accomplished artist. The Service could not retain him long at the time, but he returned later to make a significant contribution to park museum development.[41]

Staff expansion continued with the hiring of seven preparators in late 1955 and early 1956. Frank Spagnolo followed Smith from the Army Map Service and remained with the laboratory for the rest of his career. Paul Enten proved to have less to contribute and did not stay long. Peder Kitti came after painting habitat backgrounds for the new bird hall in the

National Museum. He served ably, particularly as a dioramist, until his retirement in 1979. Nelson A. Tinney assisted Willie Liggan with the increasing load of label lettering for several years. The next recruit was an exhibit worker, Edward W. Normandin, who assisted other preparators in routine production tasks. Margery Updegraff, an experienced exhibit artist, transferred from the Bureau of Reclamation to become the principal producer of illustrations, maps, charts, and other two-dimensional graphic elements needed to supplement exhibited specimens. Marilyn Biskin, also hired in February 1956, shared these assignments with her.[42]

Museums in Mission 66

Mission 66, a boldly conceived and intensively planned ten-year program, aimed to avert a crisis. It would provide the developments urgently needed if the national parks, already suffering severely from overuse, were to continue to fulfill their statutory but contradictory obligations of preservation and public enjoyment. Public use of the parks was growing at an alarming rate and would exceed the planners' estimates for the decade ahead. In this situation museums were among the many factors that could help save the parks.

Good museums played a double role. They contributed to visitors' understanding and therefore enjoyment of a park. And visitors who understood and appreciated the significance of park features tended to treat them protectively.[43] The nature of the problem, however, led Mission 66 planners to think in terms of a facility to serve a broader spectrum of visitor needs than previously associated with museums.

With the advent of PWA-funded administration/museum buildings in historical areas, most park museums shared space in multipurpose structures. The planners for Mission 66 built on this precedent. Visitors would find the new type of facility without difficulty thanks to more emphasis on strategically planned siting. It would recognize their needs as travelers and welcome them with restrooms and drinking fountains. It would provide helpful answers to their most pressing questions: where to eat and sleep, how to reach the park's prime features, how to plan their available time effectively. The building would therefore require a suitably spacious lobby with an efficiently staffed information desk as well as clear maps, schedules, and self-service orientation or information displays. It would have an auditorium or smaller room in which a relatively brief audiovisual presentation would either suggest what to see and do in the park or evoke an emotional anticipation toward important park themes. The museum exhibit room would offer a more cognitive introduction to the park story but also aim to send visitors quickly out into the park better prepared to understand and appreciate it. Those with more time and special interests